

# Sicheng Ouyang

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## Skills

- **Programming Languages:** Python, Java, C++, HTML/CSS, JavaScript, TypeScript
- **Tools/Frameworks:** Git, Flask, React, React Native, MySQL, WordPress, Microsoft Office Suite, LaTeX
- **Languages:** English (Fluent), Mandarin Chinese (Native), French (Basic)

## Experience

<b>Advanced A-Level Study Website</b> Co-Founder & Principal Software Development Engineer	<i>Sep 2023 – Aug 2025</i> China · Wuhan
- Built an A-level study exam preparation website using <b>WordPress</b> , <b>PHP</b> , and <b>MySQL</b> , deployed on <b>Tencent Cloud</b> with user login and SEO features, steadily attracting <b>1,000</b> daily active users and maintaining high uptime.	
- Curated <b>50+</b> study notes and <b>20+</b> lecture recordings and organized course content using <b>WordPress</b> , improving learning resource structure and content accessibility for <b>200+</b> students and increasing user engagement.	
<b>Tencent Music Entertainment Group</b> 	<i>Jul 2024 – Aug 2024</i> China · Shenzhen
Machine Learning Engineer	
- Evaluated 10 speech synthesis models and ran <b>20+</b> parameter experiments to improve vocal simulation quality.	
- Integrated models and tuned alignment parameters, achieving a <b>20%</b> gain in vocal consistency.	
- Produced an AI-generated music video to raise Alzheimer's awareness, gaining over <b>200,000</b> views.	
<b>Maps Uncharted</b> Software Development Engineer	<i>Jul 2023 – Aug 2023</i> China · Wuhan
- Developed a mobile android map application that visualizes user-visited locations using <b>TypeScript</b> , <b>React Native</b> , and the <b>Google Maps API</b> , receiving <b>50+</b> positive reviews upon launch.	
- Optimized walking trail rendering by merging circles into simplified polygons, reducing storage footprint by <b>5%</b> , improving rendering performance, and lowering cloud storage usage by <b>10%</b> .	
<b>Wuhan University of Technology</b>	<i>Jul 2023 – Aug 2023</i> China · Wuhan
Data Analyst	
- Conducted handwriting recognition experiments by preprocessing hand-drawn samples (noise removal, binarization, vectorization) and building a exploratory dataset using <b>Python</b> , achieving <b>96%</b> recognition accuracy.	
- Deployed a local deepseek using <b>Ollama</b> , used by <b>20</b> users to support research for the School of Physical Education.	

## Projects

<b>Chat WebSocket Demo</b> 	
- Delivered real-time chat by <b>FastAPI</b> + <b>WebSocket</b> backend with <b>PostgreSQL</b> and <b>Next.js/React</b> frontend.	
- Secured user access by implementing <b>JWT auth</b> and <b>SMTP</b> email verification, preventing unverified access	
- Improved system reliability and message consistency by designing paginated REST APIs with incremental WebSocket sync, and strengthening robustness through rate limiting and structured error code docs.	
<b>Todo List Web &amp; Desktop Application</b> 	
- Built a full-stack task management application using <b>React</b> , <b>Flask</b> , and <b>MySQL</b> , supporting full CRUD operations.	
- Developed a cross-platform system tray desktop app packaged for both Windows and macOS.	
- Fine-tuned BERT to enable natural language task input, parsing user input into <b>JSON</b> format for task creation.	
<b>Personal Website</b>  	
- Built and deployed a production-grade platform using <b>Next.js</b> , <b>TypeScript</b> , <b>Tailwind CSS</b> , <b>MDX</b> , and <b>Vercel</b> , improving page load performance to <b>&lt;0.5s LCP</b> and achieving <b>0 CLS</b> .	
- Increased search discoverability by implementing custom <b>SEO metadata</b> , automated <b>sitemap generation</b> , domain <b>DNS configuration</b> , and submitting to Google/Bing Search Console.	
<b>Nurel AI playground</b>  	
- Developed a web app with a group of 4 using <b>FastAPI</b> and <b>React</b> that allows users to train AI models with customizable hyperparameters and visualize training in real time, running locally for experimentation.	
<b>Obsidian Oreo Theme Developer</b> 	
- Designed a custom Oreo-themed Obsidian theme using <b>HTML</b> and <b>CSS</b> , over <b>3,000</b> downloads on obsidian	
<b>Resume Analyzer</b> 	
- Developed a resume evaluation tool using <b>Python</b> , <b>Flask</b> , and <b>React</b> and integrated the <b>OpenAI API</b> to generate structured resume feedback.	

## Education

<b>University of Waterloo</b> , Canada	<i>Sep 2025 – Present</i>
Bachelor of Software Engineering	
Relevant Courses: Data Structures, Algorithms, Linear Algebra, Object-Oriented Programming, AI fundamentals	